Ultrasonic Flow Meters - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-04-28 | 218 pages | Mordor Intelligence

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Report description:

The Ultrasonic Flow Meters Market size is estimated at USD 1.52 billion in 2025, and is expected to reach USD 2.14 billion by 2030, at a CAGR of 7.1% during the forecast period (2025-2030). In terms of shipment volume, the market is expected to grow from 448.00 thousand units in 2025 to 631.28 thousand units by 2030, at a CAGR of 7.10% during the forecast period (2025-2030).

Ultrasonic flow meters are devices that measure the velocity of a fluid flowing through a pipe using ultrasonic technology. They operate by emitting sound waves and analyzing the time it takes for these waves to travel through the fluid. This technology allows for accurate flow measurement without the need for moving parts, making them reliable and maintenance-free.

Key Highlights
- Ultrasonic flow meters are known for their high accuracy, often achieving measurement uncertainties of less than □1% of the reading. This level of precision is crucial in industries such as water treatment, oil and gas, and pharmaceuticals, where accurate flow measurement is essential for process control and regulatory compliance. The reliability of these meters is further enhanced by their ability to operate consistently across a wide range of conditions, including varying temperatures and pressures.
- Ultrasonic flow meters can be utilized for various applications, including clean water, wastewater, chemicals, and even gases. Their versatility makes them suitable for a wide array of industries, such as food and beverage, HVAC, and manufacturing. This adaptability allows companies to standardize their measurement processes across different operations, simplifying training and maintenance.
- Ultrasonic flow meters utilize sound waves to measure the flow rate of liquids and gases. They operate on the principle of transmitting ultrasonic signals through the medium and measuring the time it takes for the signals to travel between transducers. The difference in transit time between upstream and downstream signals is used to calculate the flow velocity, which can then be

converted into flow rate.
- Safety is paramount in industries such as oil and gas, chemical processing, and pharmaceuticals. Non-invasive flow measurement reduces the risk of leaks and spills associated with traditional measurement methods that require invasive probes or fittings. By eliminating the need for physical contact with hazardous materials, these technologies enhance workplace safety and reduce the likelihood of accidents, aligning with regulatory risk management requirements.
- The ongoing geopolitical concerns in the Middle East hinder the region's market growth as countries mainly invest in defense and military expenditure. Further, increased inflation and economic slowdown restrict the consumer purchasing power in the region, which is expected to impact market growth negatively. For instance, In MENA, Iran led with the highest inflation rate, which increased by 41.5% in 2023 compared to 2022. Following it, Egypt, Algeria, Tunisia, and Morrocco witnessed a significant increase in the inflation rate in 2023.

Ultrasonic Flow Meters Market Trends

The Clamp-on Mounting Method is Expected to Grow Significantly

- Clamp-on ultrasonic flow meters are noninvasive devices used to measure the flow of liquids or gases in pipes without cutting into the piping system. They utilize ultrasonic technology to determine the fluid's velocity by sending and receiving ultrasonic signals through the pipe wall.
- These flow meters typically consist of two ultrasonic transducers clamped onto the pipe's outside. The transducers emit ultrasonic pulses that travel through the pipe wall and into the fluid. The meter can calculate the flow velocity based on the transit time principle by measuring the time it takes for the ultrasonic signals to travel upstream and downstream. This method is effective for various types of fluids, including those that are clear or contain some level of particulates.
- Clamp-on ultrasonic flow meters are extensively used in water treatment plants and wastewater facilities to monitor flow rates and manage distribution systems. Their noninvasive nature allows for easy installation on existing pipelines without interrupting service, making them suitable for utilities seeking to optimize water usage and enhance the efficiency of treatment processes.
- Integrating smart technologies and IoT (Internet of Things) into industrial processes creates new opportunities for clamp-on ultrasonic flow meters. These devices can be equipped with wireless communication capabilities, allowing for real-time monitoring and data analysis, which enhances operational efficiency and decision-making.
- For instance, according to GSMA (Global System for Mobile Communications), the global number of Internet of Things (IoT) connections is expected to grow almost linearly through the period from 2020 to 2030, with an expected number of about 24 billion enterprise IoT connections in 2030. Hence, an increase in enterprise IoT will further drive the IoT penetration in Clamp-on ultrasonic flow meters across different industrial applications.

Asia-Pacific is Expected to Register Major Growth

- Ultrasonic flow meters are clamp-on or in-line devices that do not require any penetration into the oil and gas pipeline, which reduces the risk of gas or oil leakage and contamination, especially for hazardous or corrosive fluids. The increasing output of oil and gas, metals, and mining in Asia-Pacific has the potential to boost market demand even more.
- As the demand for oil and gas increases, the sector is witnessing notable growth in investments to enhance its capacity. For instance, in February 2024, the Indian Government announced a strategic investment plan of USD 67 billion for the Indian gas sector over the next 5-6 years. Such rising investment in the country's oil and gas sector will positively impact market growth.
- Ultrasonic flow meters are gaining traction in the region, driven by the rising production and sales of electric vehicles (EVs) and the government's strong push for EV sales. The government is prompted to enforce stringent emissions regulations due to the

increasing automotive sales in the nation to prevent significant environmental repercussions.
- Moreover, the Indian electric vehicle (EV) market is projected to achieve a value of USD 7.09 billion (INR 50,000 crore) by 2025. According to a report from the CEEW Centre for Energy Finance, there is a potential USD 206 billion opportunity for electric vehicles in India by 2030, which will require a significant investment of USD 180 billion in vehicle manufacturing and charging infrastructure.
- Further, according to CAAM, China's new energy vehicle sales amounted to 597,000 units, of which 559,000 were passenger electric vehicles and 38,000 were commercial electric vehicles. In electric vehicles, ultrasonic flow meters are pivotal in enhancing thermal management, leading to boosts in efficiency, safety, and durability, thus gaining more popularity in the EV sector.

Ultrasonic Flow Meters Industry Overview

The Ultrasonic Flow Meters market is semi-consolidated, with multiple vendors providing ultrasonic flowmeters in various operating temperature ranges, media pressures, meter sizes, and construction materials. Major players are Baker Hughes Company, Endress+Hauser Group Services AG, Fuji Electric Co. Ltd, Honeywell International Inc., Emerson Electric Co. along with other emerging players.

The flow meter market has some major manufacturers, such as Siemens AG, Emerson Electric, Honeywell International Inc., and others, contributing to the intensity of competitive rivalry. Such vendors are established and have deep penetration in the market for flow meters.

The barriers to exit are high as the capital requirements for developing flow meters are high, leading to the overall cost of the products. Thus, the barriers to exit have a positive effect on the intensity of competitive rivalry.

Moreover, the involvement of large-scale investment increases the barriers to exit for the existing players. The market for ultrasonic flow meters is fragmented, with major players molding the market based on innovations and brand image.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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